

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Previously Presented) A Ni based alloy with excellent corrosion resistance relative to supercritical water environments containing inorganic acids consisting of in weight basis:

Cr: from more than 43% to 50% or less, Mo: 0.1% to 2%, Mg: 0.001% to 0.05%, N: 0.001% to 0.04%, Mn: 0.05% to 0.5%,

at least one of Fe: 0.05% to 1.0% of and Si: 0.01% to 0.1%,

and a remainder as Ni and unavoidable impurities,

wherein a quantity of C amongst said unavoidable impurities is restricted to 0.05% or less, and the Ni based alloy consists essentially of a stabilized Ni-FCC matrix.

3. (Previously presented) A member for a supercritical water process reaction apparatus, wherein said member comprises a Ni based alloy according to claim 2.

4. (Withdrawn) A Ni based alloy with excellent corrosion resistance relative to supercritical water environments containing inorganic acids comprising:

Cr: from 29% to less than 42%, and Ta: from more than 1% to 3% or less,

further comprising Mg: 0.001% to 0.05%, N: 0.001% to 0.04%, and Mn: 0.05% to 0.5%, wherein the Mg, N, and Mn are jointly incorporated such that the crystal phase stability of the Ni fcc lattice is improved;

10. (Withdrawn) The Ni based alloy of claim 9 further comprising Nb: from more than 1.0% to 6% or less.

11. (Withdrawn) The Ni based alloy of claim 9 further comprising at least one of Mo: from 0.01% to less than 0.5% and Hf: 0.01% to 0.1%.

12. (Withdrawn) The Ni based alloy of claim 9 further comprising at least one of Fe: 0.1% to 10% and Si: 0.01% to 0.1%.

13. (Withdrawn) The Ni based alloy of claim 9 further comprising Nb: from more than 1.0% to 6% or less; and at least one of Mo: from 0.01% to less than 0.5% and Hf: 0.01% to 0.1%.

14. (Withdrawn) The Ni based alloy of claim 9, further comprising Nb: from more than 1.0% to 6% or less; and at least one of Fe: 0.1% to 10% and Si: 0.01% to 0.1%.

15. (Withdrawn) The Ni based alloy of claim 9, further comprising at least one of Mo: from 0.01% to less than 0.5% and Hf: 0.01% to 0.1%; and at least one of further comprising Fe: 0.1% to 10% and Si: 0.01% to 0.1%.

16. (Withdrawn) The Ni based alloy of claim 9 further comprising Nb: from more than 1.0% to 6% or less, at least one of Mo: from 0.01% to less than 0.5% and Hf: 0.01% to 0.1%; and at least one of further comprising Fe: 0.1% to 10% and Si: 0.01% to 0.1%.

17. (Withdrawn) A member for a supercritical water process reaction apparatus, wherein said member comprises a Ni based alloy according to claim 9.

18. (Withdrawn) A Ni based alloy with excellent resistance to stress corrosion cracking in supercritical water environments containing inorganic acids comprising:

Cr: from more than 28% to less than 34%, and W: from more than 0.1% to less than 1.0%,
and:

further comprising Mg: 0.001% to 0.05%, N: 0.001% to 0.04%, Mn: 0.05% to 0.5%,
wherein the Mg, N and Mn are jointly incorporated such that the crystal phase stability of the Ni fcc
lattice is improved:

and a remainder as Ni and unavoidable impurities,

wherein a quantity of C amongst said unavoidable impurities is restricted to 0.05% or less.

19. (Withdrawn) The Ni based alloy of claim 18, further comprising Nb: from more than 1.0% to 6% or less.

20. (Withdrawn) The Ni based alloy of claim 18 further comprising at least one of Mo: from 0.01% to less than 0.5% and Hf: 0.01% to 0.1%.

28. (New) A system for detoxifying organic toxic materials comprising a member for a supercritical water process reaction apparatus, wherein said member comprises a Ni based alloy consisting of in weight basis:

Cr: from more than 43% to 50% or less, Mo: 0.1% to 2%, Mg: 0.001% to 0.05%, N: 0.001% to 0.04%, Mn: 0.05% to 0.5%,

at least one of Fe: 0.05% to 1.0% of and Si: 0.01% to 0.1%,

and a remainder as Ni and unavoidable impurities,

wherein a quantity of C amongst said unavoidable impurities is restricted to 0.05% or less, and the Ni based alloy consists essentially of a stabilized Ni-FCC matrix.